Amendment submitted in response
to Office Action mailed 11/06/2010
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Amendments to the Claims

The following listing of claims supersedes all previously pending claims:

Claim 1. (currently amended): A method (and computer process) for producing optimal purchase schedules for an enterprise, using an electronic computing device, the method comprising the steps of:

a) creating the causing the electronic computing device to create a plurality of supply channels channel models, said models defining attributes of the a plurality of supply channels, wherein the attributes include including supply channel master data of items, requisitioning sites, vendors, vendor sites, transport modes, supply agreement parameters, and corporate business rules rules;

b) creating the scope for planning, define optimization configurations, formulating linear programming and mixed-integer linear programming models based on the created supply channel models, and run the optimizer

creating a scope for planning, wherein creating the scope for planning includes defining the optimization configurations by specifying the following parameters of an optimizer: the number of time buckets through which material can be ordered in advance, the point in the planning horizon through which lot-sizing rules must be applied, the point in the planning horizon through which minimum order lot-size rules must be applied, a flag for allowing shortness either by lot size multiple or minimum lot size, and a flag for ignoring prices and costs, wherein creating the scope for planning further includes:

solving linear programming models to determine how an order quantity of a desired item is to be split between multiple suppliers, wherein the solving comprises:

determining a first optimal solution by solving a first iteration that ignores lot sizing restrictions,

determining a second optimal solution by solving a second iteration that considers the two closest values to the first optimal solution that are multiples of a desired lot size;

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e)-analyzing ~~the~~ output purchase schedules, ~~that may~~ wherein the output purchase schedules consist of real and virtual planning scenarios, through analysis of ~~the~~ purchase costs, basic prices, contractual obligations, rebates and penalties, fulfillment, and ~~schedule~~ compliance ~~to~~ with contractual terms;

d) ~~further~~-analyzing ~~the~~ enterprise's ~~own~~ compliance, wherein analyzing enterprise compliance comprises analyzing compliance with ~~on~~ purchase quantities and flex limits, payment terms, ~~and~~ lead time provided for order processing, supply and transportation costs and taxes, and basic prices, before the output purchase schedules are finalized as orders and sent to ~~the~~ a vendor; and

generating, by the electronic computing device, an optimal purchase plan for obtaining quantities of an item from multiple potential vendors based on the supply channel models, a solution to the second linear programming iteration, the analyzed output purchase schedules, and the analyzed enterprise compliance.

Claims 2-5 (cancelled):

Claim 6. (currently amended): The method of claim 1 wherein analyzing enterprise compliance further comprises ~~for~~ computing ~~the~~ a compliance scores for ~~each individual~~ output purchase schedule ~~by measuring such analyzing~~ compliance against ~~the~~ agreement parameters of ~~the~~ basic prices, other costs ~~covered and modeled~~ in the agreement, transportation routes, lot-size multiples, order lot size, payment and credit terms, lead time for order processing and order acknowledgements, order fulfillment on time and quantity ordered, lead time for supply, lead time for transportation, expedite lead time requests, and expedite process fees when ~~such fees is~~ due.

Claim 7: (currently amended) The method of claim 1 further comprising: evaluating virtual planning scenarios ~~for creating, maintaining and comparing the scenarios~~ in which virtual agreements have been modeled ~~for the purpose of evaluating~~ to find the effects of such virtual agreements on existing supply situations, projected purchase costs, and agreement terms.

Claims 8-18 (canceled):